

ABSTRACT

The invention provides insect shuttle vectors, and methods of using such vectors, for stably transforming disparate insect cell lines to express heterologous proteins. The invention provides a transformed insect cell selection system based on resistance to the bleomycin/phleomycin family of antibiotics, including the antibiotic Zeocin. Efficient promoters derived from baculovirus immediate early promoters are disclosed for use in directing expression of heterologous proteins, including selectable markers, in transformed insect cells of the invention. Transposon-based vectors are disclosed that provide inducible transposition to optimize heterologous protein expression and unobtrusive markers to facilitate selection of desired transformants.